

## REMARKS

This Amendment is fully responsive to the non-final Office Action dated June 24, 2007, issued in connection with the above-identified application. A Petition for a Three-Month Extension of Time accompanies this Amendment. Claims 1 and 3-13 are pending in the present application. With this Amendment, claims 1, 6 and 10 have been amended. No new matter has been introduced by the amendments made to the claims. Favorable reconsideration is respectfully requested.

In the Office Action, claims 1, 3, 6 and 7 have been rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda (Japanese Reference No. 2001-183718, hereafter "Ikeda"). The Applicants have amended independent claim 1 to help further distinguish the present invention from the cited prior art. As amended claim 1 recites the following features:

"[a] blade driving device for use in cameras, the blade driving device comprising:  
a mechanical blade openably and closably disposed in front of an image pickup element, the mechanical blade being operable to block a part or all of light passing through an exposure aperture or to reduce light passing therethrough;  
an electromagnetic actuator being operable to enable the blade to perform an opening motion according to opening energization and to enable the blade to perform a closing motion according to closing energization; and

a control means for drive-controlling the electromagnetic actuator and applying opening energization and closing energization to the electromagnetic actuator so as to allow the blade to perform an opening motion to move into an opened state when turning on an electric-power supply in order to set a photographable standby state in which a dynamic image and a still image are photographable, and to perform an opening motion when a releasing operation is performed, and then to perform a closing motion for completion of a photograph." (Emphasis added).

The features emphasized above in claim 1 are fully supported by the Applicants' disclosure. The present invention (as recited in independent claim 1) is distinguishable over the cited prior art in that the blade driving device includes a mechanical blade, an electromagnetic actuator, and a control means for drive-controlling the electromagnetic actuator, wherein the

control means applies opening energization and closing energization to the electromagnetic actuator so as to allow the blade to perform an opening motion to move into an opened state when turning on an electric-power supply in order to set a photographable standby state in which a dynamic image and a still image can be photographed. Additionally, the control means performs an opening motion when a releasing operation is performed, and then performs a closing motion for completion of photography.

That is, the control means applies energization to the electromagnetic actuator as follows:

- (i) when turning on an electric power supply in order to set a photographable standby state in which a dynamic image and a still image can be photographed, the control means applies opening energization so as to allow the blade perform an opening motion to move into an opened state;
- (ii) when a releasing operation is performed, the control means applies opening energization so as to allow the blade perform an opening motion again; and
- (iii) then the control means applies closing energization so as to allow the blade perform a closing motion to move into a closed state for completion of a photography.

Since the control means applies opening energization so as to allow the blade perform an opening motion again when a releasing operation is performed even if the blade to be kept in the opened state in a photographable standby state has been closed without permission by an impulsive force from the outside, the blade is invariably positioned in the opened state immediately before photography (immediately after releasing operation) so that photography can be reliably performed. Thus, opening energization is performed without judging the state of the blade, so the control operations can be simplified.

In the Office Action, the Examiner relies on Ikeda for disclosing or suggesting all the features recited in claim 1. However, the Applicants assert that Ikeda fails to disclose or suggest all the features recited in claim 1, as amended.

Ikeda discloses a shutter device for use in a digital camera, wherein the shutter device includes a plurality of mechanical blades (3, 3a), an electromagnetic actuator (5) driving the blades, a sensor (4) for detecting a position of the blades, and a control means (see Figs. 1 and 2). In the

shutter device, the sensor (4) monitors a position of the blades, when the blades have moved into a closed state, and the control means controls the blades move into an opened state. As shown in Fig. 8, the control means controls so as to make the blades perform an opening motion only before a releasing operation is performed.

However, Ikeda does not disclose or suggest a control means that controls the blades to perform an opening motion in order to set a photographable standby state when turning on an electric-power supply without sensing via a sensor, or so as to make the blades perform an opening motion again when (immediately after) a releasing operation is performed. Also, Ikeda does not disclose or suggest a control means that controls the blades to perform an opening motion when an amount of light incident on an image pickup element becomes equal to or less than a predetermined level in a photographable standby state, or when a signal exceeding a predetermined level is output from a shock sensor used to detect an impulsive force in a photographable standby state.

Based on the above discussion, independent claim 1 (as amended) is not anticipated or rendered obvious by Ikeda. Likewise, claims 3, 6 and 7 are noted anticipated or rendered obvious by Ikeda at least by virtue of their dependencies for independent claim 1.

Moreover, claim 6 is also believed to be distinguishable over the Ikeda based on its own merit.

In claim 6, the control means applies energization to the electromagnetic actuator as follows:

- (i) when an amount of light incident on the image pickup element becomes equal to or less than a predetermined level in the photographable standby state, the control means applies opening energization so as to allow the blade to perform an opening motion.

Accordingly, since the blade is invariably positioned in the opened state on the basis of information about a change in the amount of light before a releasing operation is performed, desirable adjusting (focusing, framing, etc.) for photography can be completely performed. No such features are believed to be disclosed or suggested by Ikeda. Accordingly, claim 6 is believed to be distinguishable over the cited prior art on its own merit.

In the Office Action, claims 4, 5, 8 and 9 have been rejected under 35 U.S.C. 103(a) as being obvious in view of Ikeda. Claims 4, 5, 8 and 9 depend from independent claim 1. As noted

above, Ikeda fails to disclose or suggest all the features recited in independent claim 1 (as amended). Accordingly, claims 4, 5, 9 and 9 are not rendered obvious by Ikeda at least by virtue of their dependencies from independent claim 1.

In the Office Action, claims 10-13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda in view of Watanabe (U.S. Patent No. 6,304,726, hereafter "Watanabe"). Claims 10-13 depend (directly or indirectly) from independent claim 1. As noted above, Ikeda fails to disclose or suggest all the features recited in independent claim 1 (as amended). Additionally, Watanabe fails to overcome the deficiencies noted above in Ikeda. Therefore, no combination of Ikeda and Watanabe would result in, or otherwise render obvious, the features recited in claims 10-13 at least by virtue of their dependencies from independent claim 1.

Moreover, claims 10-13 is also believed to be distinguishable over the cited prior art on its own merit. As recited in claim 10, the control means applies energization to the electromagnetic actuator as follows:

- (i) when a signal exceeding a predetermined level is output from a shock sensor used to detect an impulsive force in the photographable standby state, the control means applies opening energization so as to allow the blade to perform an opening motion.

Since the blade is invariably positioned in the opened state on the basis of a signal exceeding a predetermined level is output from a shock sensor because of a dropping of the device or a bumping thereof against another object before a releasing operation is performed, desirable adjusting (focusing, framing, etc.) for photography can be completely performed.

In the Office Action, the Examiner relies primarily on Watanabe for disclosing or suggesting all the features recited in claim 10-13.

However, Watanabe discloses a camera capable of detecting shocks that includes a camera body (30), a flexible board (34), a shock sensor (52) mounted on a mounting section (34a) of the flexible board (34), a control means (CPU12), a display section (20), an abnormality detector (22).

As shown in Fig. 3, when the shock sensor (52) detects a predetermined level shock, the

abnormality detector (22) detects any abnormality based on the signal from the shock sensor (52), and then the corresponding information is displayed on the display section (20), so that the user can therefore check what is on the display section (20).


Thus, Watanabe discloses or suggests only detecting the presence or absence of an abnormality using the shock sensor (52). Watanabe does not disclose or suggest a control means that controls a blade to perform an opening motion when an amount of light incident on an image pickup element becomes equal to or less than a predetermined level in a photographable standby state, or when a signal exceeding a predetermined level is output from a shock sensor used to detect an impulsive force in a photographable standby state.

Accordingly, claim 10 is also believed to be distinguishable over the cited prior art on its own merit. Additionally, claims 11-13 are also believed to be distinguishable over the cited prior art at least by virtue of their dependencies (directly or indirectly) from claim 10.

In light of the foregoing, the Applicant respectfully requests that the Examiner withdraw the rejections presented in the outstanding Office Action, and pass the present application to issue. The Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues.

Respectfully submitted,

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